

# EXHIBIT 3



## UNITED STATES PATENT AND TRADEMARK OFFICE

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## NOTICE OF ALLOWANCE AND FEE(S) DUE

12358 7590 09/19/2016  
 Mintz Levin/Nokia Technologies Oy  
 One Financial Center  
 Boston, MA 02111

EXAMINER

TRAN, TRI MINH

ART UNIT

PAPER NUMBER

2494

DATE MAILED: 09/19/2016

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/514,290	06/06/2012	Bajko Gabor	49700-042N01US/NC71282US	3470

TITLE OF INVENTION: SYSTEM, METHOD, AND APPARATUS FOR PERFORMING RELIABLE NETWORK, CAPABILITY, AND SERVICE DISCOVERY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	12/19/2016

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

**HOW TO REPLY TO THIS NOTICE:**

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax** **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

12358 7590 09/19/2016  
**Mintz Levin/Nokia Technologies Oy**  
**One Financial Center**  
**Boston, MA 02111**

## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	12/19/2016

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRAN, TRI MINH	2494	713-156000

<b>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</b> <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. <b>Use of a Customer Number is required.</b>	<b>2. For printing on the patent front page, list</b> (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____ (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____ 3 _____
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## 3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

## 4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

## 4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

## 5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29  
☐ Applicant asserting small entity status. See 37 CFR 1.27  
☐ Applicant changing to regular undiscounted fee status.

**NOTE:** Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

**NOTE:** If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

**NOTE:** Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_



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Boston, MA 02111			PAPER NUMBER	

2494

DATE MAILED: 09/19/2016

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**

(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.** Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

### Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

<b><i>Examiner-Initiated Interview Summary</i></b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	13/514,290	GABOR, BAJKO	
	<b>Examiner</b>	<b>Art Unit</b>	
	TRI TRAN	2494	

All participants (applicant, applicant's representative, PTO personnel):

(1) TRI TRAN. (3) \_\_\_\_.

(2) Boris Matvenko #48165. (4) \_\_\_\_.

Date of Interview: 31 August 2016.

Type: ☒ Telephonic ☐ Video Conference  
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.  
If Yes, brief description: \_\_\_\_.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☒Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 36.

Identification of prior art discussed: \_\_\_\_.

**Substance of Interview**  
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Discussed claim amendments for allowance.

**Applicant recordation instructions:** It is not necessary for applicant to provide a separate record of the substance of interview.

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/TRI TRAN/ Examiner, Art Unit 2494	
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<b>Notice of Allowability</b>	<b>Application No.</b> 13/514,290	<b>Applicant(s)</b> GABOR, BAJKO	
	<b>Examiner</b> TRI TRAN	<b>Art Unit</b> 2494	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- ☒ This communication is responsive to 7/11/16.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_.
- ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- ☒ The allowed claim(s) is/are 36,38-41,43,45-49,51,54 and 55. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to PPHfeedback@uspto.gov.
- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a) ☐ All    b) ☐ Some    \*c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

- ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
- ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_
- ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
- ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_.

/TRI TRAN/  
Examiner, Art Unit 2494

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### **DETAIL ACTION**

This communication is in response to Applicant's amendments filed on July 11, 2016.

Claim 36, 38-41, 43, 45-49, 51-52 and 54-55 are allowed.

The present application is being examined under the pre-AIA first to invent provisions.

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an interview with Boris Matvenko #48,165 on August 31, 2016.

### **Claim Amendments**

*1-35. (Cancelled).*

*36. (Currently Amended). A method for performing network, capability, and service discovery, the method comprising:*



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*providing, when an authentication is to be performed, for transmission of a request for signed access point information, wherein the request is provided, by a user equipment, for transmission prior to the authentication with an access point;*

*providing, when the authentication is not to be performed, for transmission of the request for the signed access point information, wherein the request is provided, by the user equipment, prior to associating with the access point, wherein the signed access point information includes at least one of a service set identifier, a media access control address, a uniform resource identifier, a services list, a network access identifier realm list, or a fully qualified domain name list, the request for the signed access point information including a random number and at least a vendor specific attribute according to the standard of Wi-Fi Alliance;*

*receiving, by the user equipment, a response comprising the signed access point information, the response being received in response to the request and including a signed identification, a signed capability, and a signed service information of the access point, the random number of the request, and at least the vendor specific attribute according to the standard of Wi-Fi Alliance for verification prior to authentication with the access point when authentication is performed or prior to associating with the access point when authentication is not performed; and*

*verifying, by the user equipment, the signed access point information using a digital certificate.*

37. (Cancelled).

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38. *(Previously Presented). The method of Claim 36, wherein the request for the signed access point information comprises one or more identifiers, and wherein each of the one or more identifiers corresponds to a type of requested access point information.*

39. *(Previously Presented). The method of Claim 36, wherein the verifying the signed access point information further comprises:*

*verifying a signature of an issuer of the digital certificate; and*  
*using information in the digital certificate to verify the signed access point information.*

40. *(Previously Presented). The method of Claim 36, further comprising:*

*selecting an access point for communication based at least in part on the verified signed access point information.*

41. *(Currently Amended). An apparatus comprising:*

*at least one processor; and*  
*at least one memory including computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus to perform at least the following:*

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*provide, when an authentication is to be performed, for transmission of a request for signed access point information, wherein the request is provided, by a user equipment, for transmission prior to the authentication with an access point;*

*provide, when the authentication is not to be performed, for transmission of the request for the signed access point information, wherein the request is provided, by the user equipment, prior to associating with the access point, wherein the signed access point information comprises at least one of a service set identifier, media access control address, uniform resource identifier, services list, network access identifier realm list, or fully qualified domain name list, the request for the signed access point information including a random number and at least a vendor specific attribute according to the standard of Wi-Fi Alliance;*

*receive, by the user equipment, a response comprising the signed access point information, the response being received in response to the request and including a signed identification, a signed capability, and a signed service information of the access point, the random number of the request, and at least the vendor specific attribute according to the standard of Wi-Fi Alliance for verification prior to authentication with the access point when authentication is performed or prior to associating with the access point when authentication is not performed; and*

*verify, by the user equipment, the signed access point information using a digital certificate.*

42. (Cancelled).

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43. *(Previously Presented). The apparatus of Claim 41, wherein the request for the signed access point information comprises one or more identifiers, and wherein each of the one or more identifiers corresponds to a type of requested access point information.*

44. *(Canceled).*

45. *(Previously Presented). The apparatus of Claim 41, wherein in order to verify the signed access point information, the at least one memory and the computer program code are further configured to, with the at least one processor, cause the apparatus to:*  
*verify a signature of an issuer of the digital certificate; and*  
*use information in the digital certificate to verify the signed access point information.*

46. *(Previously Presented). The apparatus of Claim 41, wherein in order to verify the signed access point information, the at least one memory and the computer program code are further configured to, with the at least one processor, cause the apparatus to:*  
*verify the signed access point information using a public key infrastructure.*

47. *(Previously Presented). The apparatus of Claim 41, wherein the at least one memory and the computer program code are further configured to, with the at least one processor, cause the apparatus to:*

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*select an access point for communication based at least in part on the verified signed access point information.*

*48. (Currently Amended). A non-transitory computer-readable storage medium including computer-readable program code, which when executed by at least one processor provides operations comprising:*

*providing, when an authentication is to be performed, for transmission of a request for signed access point information, wherein the request is provided, by a user equipment, for transmission prior to the authentication with an access point;*

*providing, when the authentication is not to be performed, for transmission of the request for the signed access point information, wherein the request is provided, by the user equipment, prior to associating with the access point, wherein the signed access point information includes at least one of a service set identifier, a media access control address, a uniform resource identifier, a services list, a network access identifier realm list, or a fully qualified domain name list, the request for the signed access point information including a random number and at least a vendor specific attribute according to the standard of Wi-Fi Alliance;*

*receiving, by the user equipment, a response comprising the signed access point information, the response being received in response to the request and including a signed identification, a signed capability, a signed service information of the access point, the random number of the request, and at least the vendor specific attribute according to the standard of Wi-Fi Alliance for verification prior to authentication with the*

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*access point when authentication is performed or prior to associating with the access point when authentication is not performed; and*

*verifying, by the user equipment, the signed access point information using a digital certificate.*

49. (Currently Amended). *An apparatus comprising:*

*at least one processor; and*

*at least one memory including computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus to perform at least the following:*

*receive, when an authentication is to be performed, a request for signed access point information, wherein the request is received, by an access point, prior to authentication; receive, when the authentication is not to be performed, the request for the signed access point information, wherein the request is received, by the access point, prior to association, wherein the signed access point information comprises at least one of a service set identifier, media access control address, uniform resource identifier, services list, network access identifier realm list, or fully qualified domain name list, the request for the signed access point information including a random number and at least a vendor specific attribute according to the standard of Wi-Fi Alliance;*

*sign, by the access point, the requested access point information, the requested access point information being received in response to the request and including a signed identification, a signed capability, and a signed service information of the access*

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*point, the random number of the request, and at least the vendor specific attribute according to the standard of Wi-Fi Alliance for verification prior to authentication with the access point when authentication is performed or prior to associating with the access point when authentication is not performed;*

*build, by the access point, a response to the request comprising the signed access point information; and*

*provide, by the access point, for transmission of the response.*

50. (Canceled).

51. (Previously Presented). *The apparatus of Claim 49, the apparatus further comprises:*

*sign the requested access point information using information in a digital certificate.*

52. (Currently Amended). *An apparatus comprising:*

*at least one processor; and*

*at least one memory including computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus to perform at least the following:*

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*receive, when an authentication is to be performed, a request for signed access point information, wherein the request is received, by an access point, prior to authentication;*

*receive, when the authentication is not to be performed, the request for the signed access point information, wherein the request is received, by the access point, prior to association, wherein the signed access point information comprises at least one of a service set identifier, media access control address, uniform resource identifier, services list, network access identifier realm list, or fully qualified domain name list, the request for the signed access point information including a random number and at least a vendor specific attribute according to the standard of Wi-Fi Alliance;*

*provide, by the access point, for transmission of the request to a third party entity, wherein the request is provided for transmission to the third party entity over a secure connection;*

*receive, by the access point, a response to the request comprising the signed access point information from the third party entity, wherein the response is received from the third party entity over a secure connection, the signed access point information being provided in response to the request and including a signed identification, a signed capability, and a signed service information of the access point, the random number of the request, and at least the vendor specific attribute according to the standard of Wi-Fi Alliance for verification prior to authentication with the access point when authentication is performed or prior to associating with the access point when authentication is not performed; and*



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*provide, by the access point, for transmission of the response.*

53. (Canceled).

54. (Previously Presented). *The apparatus of Claim 52, wherein the signed access point information from the third party entity is signed using information in a digital certificate.*

55. (Currently Amended). *A method for performing network, capability, and service discovery, the method comprising:*

*receiving, when an authentication is to be performed, a request for signed access point information, wherein the request is received, by an access point, prior to authentication;*

*receiving, when the authentication is not to be performed, the request for the signed access point information, wherein the request is received, by the access point, prior to association, wherein the signed access point information comprises at least one of a service set identifier, media access control address, uniform resource identifier, services list, network access identifier realm list, or fully qualified domain name list, the request for the signed access point information including a random number and at least a vendor specific attribute according to the standard of Wi-Fi Alliance;*

*providing, by the access point, for transmission of the request to a third party entity, wherein the request is provided for transmission to the third party entity over a secure connection;*

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*receiving, by the access point, a response to the request comprising the signed access point information from the third party entity, wherein the response is received from the third party entity over a secure connection, the signed access point information being provided in response to the request and including a signed identification, a signed capability, and a signed service information of the access point, the random number of the request, and at least the vendor specific attribute according to the standard of Wi-Fi Alliance for verification prior to authentication with the access point when authentication is performed or prior to associating with the access point when authentication is not performed; and*

*providing, by the access point, for transmission of the response.*

### ***Reasons for Allowance***

Prior Art: Tian et al., WO2008034361- Systems, methods and computer-accessible medium for acquiring and authenticating public key certificate status (hereinafter Tian). Note: PG Pub US20100031031 of Tian is cited to in this rejection in place of WO2008034361. The PG Pub is a publication of the national stage application of the international application.

Tian discloses a process of verifying an access point by having a user equipment sending a request for a certificate of an access point. The Access Point sends its digital certificate G\_Cert to the user equipment for verification. As known in the art, a certificate contains the signature of the issuer. Hence a certificate such as G\_Cert of the Access Point is signed Access Point information. Note that verifying the Access Point is

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performed before authentication taking place in view of Tian. The user may or may not sign in depending on the validity of the access point. Hence, there may be or may not be authentication taking place for the user (Fig. 1, par. [0100]-[0104], [0109]-[0110] and [0138]-[0149]).

Prior art: Nicholas Ilyadis, PG Pub 20100031029 – Techniques to provide access point authentication for Wireless network (herein after Ilyadis).

Ilyadis discloses another process of authenticating an access point by using a random number generated based on a key of the access point (par. [0028]-[0029]).

Thus, the combination of Tian and Ilyadis teaches features recited in claim 36 such as *providing, when an authentication is to be performed, for transmission of a request for signed access point information, wherein the request is provided, by a user equipment, for transmission prior to the authentication with an access point; providing, when the authentication is not to be performed, for transmission of the request for the signed access point information, wherein the request is provided, by the user equipment, prior to associating with the access point, wherein the signed access point information includes at least one of a service set identifier, a media access control address, a uniform resource identifier, a services list, a network access identifier realm list, or a fully qualified domain name list, the request for the signed access point information including a random number ...*".

However, there is no art in singly or in combination teach the response or request to verify an access point comprises "... *the signed access point information being*

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*provided in response to the request and including a signed identification, a signed capability, and a signed service information of the access point, the random number of the request, and at least the **vendor specific attribute according to the standard of Wi-Fi Alliance***".

Therefore, claim 36 and similarly defined in claims 41, 48, 49, 52 and 55 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **INQUIRY COMMUNICATION**

TRI TRAN whose telephone number is (571)270-1994, Email contact: Tri.Tran@uspto.gov. The examiner can normally be reached on Monday-Friday 9:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jung (Jay) Kim can be reached on (571) 272-3804. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/TRI TRAN/

Examiner, Art Unit 2494